

Title (en)
A METHOD FOR PRODUCING GLYCOLS

Title (de)
VERFAHREN ZUR HERSTELLUNG VON GLYKOLEN

Title (fr)
METHODE DE FABRICATION DE GLYCOLS

Publication
EP 0929503 B1 20011017 (EN)

Application
EP 97909974 A 19971003

Priority
• US 9717936 W 19971003
• US 2665996 P 19961004

Abstract (en)
[origin: WO9814419A1] This invention relates to a method for producing glycols. Such a method is particularly useful for preparing ethylene glycol from ethylene oxide and water. The method of this invention is a synergistic combination of the process of evaporation, absorption, and reaction, combined to enhance reactions of yields for reactions of epoxides with compounds containing hydroxy functional groups. Such method comprises making glycol in an evaporation column reactor as follows: (a) feeding a hydroxy compound into the reactor; (b) feeding an epoxide into the reactor such that the epoxide compound is contacted with hydroxyl compound in a reaction zone under conditions such that substantially all of the epoxide reacts to form a product comprising a glycol which is dissolved in liquid hydroxyl compound; (c) removing the mixture of liquid hydroxyl compound and dissolved glycol away from the reaction zone; and (d) heating the mixture of liquid hydroxyl compound and dissolved glycol such that at least some of the hydroxyl compound is evaporated away from the glycol; and (e) condensing and refluxing the evaporated hydroxyl compound and combining it with the hydroxyl compound of Step (a). In one aspect of the invention, the epoxide feed described in Step (b) enter the reactor through at least two distinct ports within the reactor. In another aspect of this invention, the method is synergistically conducted in at least two sequential evaporation columns which together form a multiple effect evaporation column reactor.

IPC 1-7
C07C 29/10; **C07C 31/20**

IPC 8 full level
B01J 31/08 (2006.01); **C07C 29/10** (2006.01); **C07C 31/20** (2006.01); **C07C 41/03** (2006.01); **C07C 43/10** (2006.01)

CPC (source: EP KR)
C07C 29/10 (2013.01 - KR); **C07C 29/106** (2013.01 - EP); **Y02P 20/52** (2015.11 - EP)

Cited by
RU2470706C2; US7645906B2; WO2022079662A1

Designated contracting state (EPC)
AT CH DE ES GB LI PT

DOCDB simple family (publication)
WO 9814419 A1 19980409; AT E207050 T1 20011115; AU 4745897 A 19980424; AU 731453 B2 20010329; BR 9712200 A 20020716; CA 2268158 A1 19980409; CN 1100742 C 20030205; CN 1237953 A 19991208; DE 69707487 D1 20011122; DE 69707487 T2 20020411; EP 0929503 A1 19990721; EP 0929503 B1 20011017; ES 2165589 T3 20020316; ID 21570 A 19990624; JP 2001501624 A 20010206; KR 20000048902 A 20000725; PT 929503 E 20020228

DOCDB simple family (application)
US 9717936 W 19971003; AT 97909974 T 19971003; AU 4745897 A 19971003; BR 9712200 A 19971003; CA 2268158 A 19971003; CN 97199748 A 19971003; DE 69707487 T 19971003; EP 97909974 A 19971003; ES 97909974 T 19971003; ID 990154 A 19971003; JP 51692198 A 19971003; KR 19997002932 A 19990403; PT 97909974 T 19971003